

Nepalese Water Beetles (Coleoptera) Dryopidae, Elmidae, Helophoridae, Hydraenidae, Heteroceridae, and Hydroscaphidae

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Abstract

The species of six families of aquatic Coleoptera (Dryopidae, Elmidae, Helophoridae, Hydraenidae, Heteroceridae, and Hydroscaphidae) from Nepal are listed. The check lists are based mainly on literature compilations, and a few unpublished data are added. *Helophorus mervensis* is recorded from Nepal for the first time.

Introduction

Nepalese fauna have attracted the attention of researchers worldwide since the early 18th century (Hope 1831). And although a lot of useful information on the Nepalese water beetle fauna is available from Jäch and Ji (1995), synoptic contributions concerning aquatic Coleoptera from Nepal have not been published so far.

The following check lists are based on literature compilations and a few unpublished data (collections of the senior author and the Dept. of Hydrobiology, Vienna State University of Agriculture). All data are provided with exact information on the locality, collection date, collector, and - as it plays an important role in Himalayan ecology - the elevation **masl.**

Six families are included: Dryopidae, Elmidae, Helophoridae, Hydraenidae, Heteroceridae, and Hydroscaphidae.

Check List

Dryopidae

Dryops jaechi Olmi, 1986

Eastern region: **Sunsari district, Dharan, 430m, 11.II.1981, leg. (collector) Jäch (Olmi 1986); Makwanpur district, Hetauda, 470m, 17.II.1981, leg. Jäch (Olmi 1986).**

Dryops nepalensis Olmi, 1986

Central region: **Sindhupalchowk district, Lamosangu, 900m, 05.II.1980, leg. Jäch (Olmi 1986).**

Elmomorpha nepalensis Satô, 1981

Central region: Lalitpur district, Godawari, 1,500m, 21.IX.1979, leg. Satô (Satô 1981); Sindhupalchowk district, Lamosangu, 900m, 20.X.1979, leg. Satô (Satô 1981); Sindhupalchowk district, Simle, 1,050m, 10.XI.1979, leg. Satô (Satô 1981); Sindhupalchowk district, Ghorthali, 1,600m, 10.XI.1979, leg. Satô (Satô 1981); Sindhupalchowk district, Charise, 1,100m, 10.XI.1979, leg. Satô (Satô 1981); Sindhupalchowk district, Lamosangu, 900m, 5.II.1980, leg. Jäch (unpubl.); Sindhupalchowk district, Hetauda, 470m, 19.II.1981, leg. Jäch (unpubl.); Sindhupalchowk district, Tatopani, 1,800-2,000m, 1.III.1981, leg. Jäch (unpubl.).

Uenodryops himalayanus Satô, 1981

Central region: Sindhupalchowk district, Shivino *Khola*, 1,920m, 14.XI.1979, leg. Satô (Satô 1981); Sindhupalchowk district, Nangarpa, 1,750m, 11.XI.1979, leg. Satô (Satô 1981).

Elmidae

Esolus nepalensis Jäch, 1982

Central region: Sindhupalchowk district, Lamosangu, 900m, 05.II.1981, leg. Jäch (Jäch 1982).

Grouvellinus brevior Jäch, 1984

Central region: Sindhupalchowk district, Tatopani, Bhairavkund *Khola*, 1,600m, 01.III.1981, leg. Jäch (Jäch 1984).

Grouvellinus carinatus Jäch, 1984

Central region: Sindhupalchowk district, Lamosangu, 900m, 05.II.1981, leg. Jäch (Jäch 1984).

Grouvellinus hadrosceles Jäch, 1984

Central region: Lalitpur district, Godawari, 1,500m, 07.II.1981, leg. Jäch (Jäch 1984).

Grouvellinus hercules Jäch, 1984

Central region: Sindhupalchowk district, Tatopani, 1,800-2,000m, 01.III.1981, leg. Jäch (Jäch 1984); Nuwakot district, Sherpagaon, Langtang *Khola*, 2,800m, 1.-9.X.1982, leg. Holzschuh (Jäch 1984).

Grouvellinus nepalensis Delève, 1970

Eastern region: Dhankuta district, Ningale, 1,680m, 14.IV.1961, leg. Janetschek (Delève 1970).

Central region: Makwanpur district, Hetauda, 470m, 11.-19.II.1981, leg. Jäch (Jäch 1984); Kathmandu district, Kathmandu, 1,300-1,500m, II.1981, leg. Jäch (Jäch 1984); Sindhupalchowk district, Tatopani, 1,600m, 01.III.1981, leg. Jäch (Jäch 1984).

Grouvellinus tibetanus Jäch, 1984

Central region: Sindhupalchowk district, Tatopani, Bhairavkund *Khola*, 1,600m, 01.III.1981, leg. Jäch (Jäch 1984).

Limnius swayambhu Jäch, 1982

Central region: Kathmandu district, Kathmandu, 1,300m, 03.II.1981, leg. Jäch (Jäch 1982).

*Helophoridae**Helophorus frater* Orchymont, 1926

Western region: Mustang district, Ghasa, 3,000m, 2.VIII.1985, leg. Preuler-Jäch (Angus 1992).

Helophorus mervensis Semenov, 1900

Mid-western region: Jumla district, Jumla, 2,340m, 16.IX.1972, leg. Franz (New record for Nepal).

*Heteroceridae**Heterocerus fulvipes* Miller, 1995

Central region: Bara district, Adhabhar (near Simra), 200m, 31.VIII.-29.IX.1976, leg. Can. Nep. Exp. (Miller 1995); Bara district, Lothar (near Birganj), 150 m, 7.-19.IX.1967, leg. Can. Nep. Exp. (Miller 1995).

Littorimus cantus Miller, 1995

Central region: Bara district, Adhabhar (near Simra), 200m, 31.VIII.-29.IX.1976, leg. Can. Nep. Exp. (Miller 1995); Bara district, Lothar (near Birganj), 150m, 31.VIII.-29.IX.1976, leg. Can. Nep. Exp. (Miller, 1995); Lalitpur district, Godavari, 1,500m, 31.VIII.-29.IX.1976, leg. Can. Nep. Exp. (Miller 1995).

Littorimus feai Grouvelle, 1896

Central region: Kathmandu district, Kathmandu, 1,300-1,350m, date and collector unknown (Mascagni 1993); Lalitpur district, Patan, 1,300-1,400m, VII.1971 (Mascagni 1993); Chitwan district, Sauraha, 170m, 20.-25.V.1992, leg. Jenis (Mascagni 1993); Bara district, Parwanipur farm (Birganj), 150-200m, IX.1971, leg. Davidson (Mascagni 1993).

Littorimus ivojenisi Mascagni, 1995a

Central region: Chitwan district, Sauraha, 170m, 20.-25.V.1992, leg. Jenis (Mascagni 1995a).

Littorimus kaalo Mascagni, 1995a

Central region: Chitwan district, Sauraha, 170m, 20.-25.V.1992, leg. Jenis (Mascagni 1995a).

Western region: Gorkha district, Gorkha, elevation, date and collector unknown (Mascagni 1995a).

Littorimus manfredjaechi Mascagni, 1995a

Eastern region: Sunsari district, Dharan, 430m, 11.-14.II.1981, leg. Jäch (Mascagni 1995a).

Central region: Chitwan district, Sauraha, 170m, 20.-25.V.1992, leg. Jenis (Mascagni 1995a).

Littorimus martensi Mascagni, 1990

Eastern region: Ilam district, Mai *Khola* Valley, 470m, 7.IV.1988, leg. Martens and Schawaller (Mascagni 1990).

Littorimus modicus Miller, 1995

Central region: Bara district, Lothar (near Birganj), 150m, 25.VIII.-9.IX.1967, leg. Can. Nep. Exp. (Miller 1995); Bara district, Adhabhar (near Simra), 200m, 3.-29.IX.1967, leg. Can. Nep. Exp. (Miller 1995).

Littorimus nepalensis Mascagni, 1993

Central region: Bara district, Parwanipur farm (Birganj), 150-200m, IX.1971, leg. Davidson (Mascagni 1993); Dhanusa district, Janakpur, 70m, IV.1971, leg. Davidson (Mascagni 1993).

Littorimus repexus Miller, 1995

Central region: Bara district, Lothar (near Birganj), 150m, 29.VIII.-1.IX-1967, leg. Can. Nep. Exp. (Miller 1995).

Littorimus saano Mascagni, 1995a

Central region: Chitwan district, Sauraha, 170m, 20.-25.V.1992, leg. Jenis (Mascagni 1995a).

Littorimus schawalleri Mascagni, 1990

Eastern region: Ilam district, Nodia *Khola* Valley (N. Siwalik Mts.), 320m, 6.IV.1988, leg. Martens and Schawaller (Mascagni 1990); Morang district, Biratnagar, 70m, 2.XI.1990, leg. Scifert (Mascagni 1990)

Central region: Chitwan district, Sauraha, 165m, 20-25-V-1992, leg. Jenis (Mascagni 1990).

Littorimus siyo Mascagni, 1995a

Central region: Chitwan district, Sauraha, 170 m, 20.-25.V.1992, leg. Jenis (Mascagni 1995a).

Littorimus terzanii Mascagni, 1995a

Central region: Chitwan district, Sauraha, 170m, 20.-25.V.1992, leg. Jenis (Mascagni 1995a).

Western region: Palpa district, Ramdighat, Kaligandaki, 370m, 5.I.1994, leg. Sharma (Mascagni 1995b).

Littorimus uncis Miller, 1995

Central region: Bara district, Lothar (near Birganj), 150m, 29.VIII.-29.IX.1967, leg. Can. Nep. Exp.(Miller 1995); Bara district, Adhabhar (near Simra), 200m, 23.-26.VIII.1967, leg. Can. Nep. Exp. (Miller 1995).

Hydraenidae

Hydraena fontana Orchymont, 1932

Eastern region: Sunsari district, Dharan, 430m, 13.II.1981 and 16.II.1981, leg. Jäch (1984).

Ochthebius amplicollis Champion, 1925

Mid-western region: Jumla district, Dzunda *Khola* near Talphi, 3,000-3,500m, date not known, leg. Franz (Jäch 1990);

Region and district unknown, Gurjyakhani, 2,800m, 30.VI.1954 and 7.VII.1954, leg. Hyatt (Jäch 1990).

Ochthebius caucasicus Kuwert, 1987

Central region: Sindhupalchowk district, Tatopani (Nepal-Tibet border), hot spring, 1,650m, 2.III.1981, leg. Jäch (Jäch 1989c).

Ochthebius himalayae Jäch, 1989b

Central region: Sindhupalchowk district, Tatopani-Kodari, Bhotekosi River, 1,650m, 27.II.1981, leg. Jäch (Jäch 1989b).

Ochthebius imbensimbi Jäch, 1989

Central region: Sindhupalchowk district, Lamosangu, 900m, 5.II.1980, leg. Jäch (Jäch 1989c); Makwanpur district, Hetauda, 470m, 17.II.1981, leg. Jäch (Jäch 1989c).

Ochthebius indicus Ienistea, 1988

Central region: Sindhupalchowk district, Lamosangu, 900m, 05.II.1981, leg. Jäch (Jäch 1990); Makwanpur district, Hetauda, 470m, 17.II.1981, leg. Jäch (Jäch 1990).

Western region: Kaski district, Pokhara, 900m, 22.II.1981, leg. Jäch (Jäch 1990).

Ochthebius minimus Fabricius, 1792

Eastern region: Solukhumbu, Sutje near Lukla, elevation and date not known, leg. Franz (Jäch 1990).

Ochthebius nepalensis Jäch, 1989

Central region: Sindhupalchowk district, Lamosangu, 900m, 05.II.1981, leg. Jäch (Jäch 1989a).

Ochthebius opacipennis Champion, 1920

Central region: Makwanpur district, Hetauda, 470m, 11.-19.II.1981, leg. Jäch (Jäch 1992).

Ochthebius orientalis Janssens, 1962

Central region: Sunsari district, Dharan, 430 m, 12.II.1981, leg. Jäch (Jäch 1989c).

Ochthebius ovatus Jäch, 1989

Central region: Sindhupalchowk district, Tatopani, Bhotekosi River, 1,600m, 28.II.1981, leg. Jäch (Jäch 1989a).

Ochthebius rivalis Champion, 1925

Eastern region: **Sunsari district, near Dharan, 430m, II.1981, leg. Jäch (Jäch 1989a).**

Central region: **Makwanpur district, Hetauda, 470m, II.1981, leg. Jäch (Jäch 1989a); Sindhupalchowk district, Lamosangu, 900m, II.1981, leg. Jäch (Jäch 1989a).**

Western region: **Kaski district, Pokhara, 900m, II.1981, leg. Jäch (Jäch 1989a).**

Hydroscaphidae

Hydroscapha nepalensis Löbl, 1994

Eastern region: **Sankhuwasabha district, Induwa *Khola*, 2,000-2,600m, 16.-18.IV.1984, leg. Löbl and Smetana (Löbl 1994); Sankhuwasabha district, 2km E Mangsingma, 1900 m, 19.IV.1984, leg. Löbl and Smetana (Löbl 1994).**

Hydroscapha satoi Löbl, 1994

Eastern region: **Solukhumbu district, Jorsale, 2,800m, 4.X.1979, leg. Satô (Löbl 1994).**

Hydroscapha turbinata Champion, 1925

Central region: **Sindhupalchowk district, Simle, 1,100m, 10.XI.1979, leg. Satô (Löbl 1994).**

Discussion

Nepal is comprised of a wide array of natural landscapes and ecological habitats. There are lowland swamps as well as high-altitude streams and rain forest rivers. However, despite this enormous biodiversity, surprisingly few species of aquatic Coleoptera are hitherto recorded from this country.

Only two Helophoridae are included in the check list. One of these (*H. mervensis*) was not recorded from Nepal before. The reason for the surprising poverty in *Helophorus* is probably a geographical one (Angus 1995) and cannot be explained by lack of collecting.

The families Elmidae, Dryopidae, and Hydraenidae are also represented by low species numbers in the check list. The reason for this lies mainly in the fact that Nepal harbours many endemic species which still await description. For certain genera, e.g., *Hydraena*, it can be expected that some 50 or more species from Nepal will be described as new to science.

The Heteroceridae of Nepal are comparatively well studied. With 15 known species, Nepal's fauna distinctly excels over some of the other countries of the region: China (10 spp), Burma (6 spp), and Thailand (6 spp).

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